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Datasheet for the decision of 7 December 2007

Case Number: T 0776/04 - 3.4.01

Application Number: 01310535.8

Publication Number: 1260829

IPC: G01S 5/02

Language of the proceedings: EN

Title of invention:
Autonomous calibration of a wireless-global positioning system

Applicant:
Lucent Technologies Inc.

Opponent:
-

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 56

Keyword:
"Novelty - (yes)"
"Inventive step - all requests (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0776/04 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 7 December 2007

Appellant: Lucent Technologies Inc.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 1 April 2004 refusing European application No. 01310535.8 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: B. Schachenmann
Members: G. Assi
F. Neumann

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal, received on 24 May 2004, against the decision of the examining division, dispatched on 1 April 2004, refusing the European patent application No. 01310535.8 (publication number EP 1 260 829). The fee for the appeal was paid on 22 May 2004. The statement setting out the grounds of appeal was filed on 26 May 2004.

II. In the contested decision, the examining division held that the claimed invention did not meet the requirement of Article 56 EPC having regard to the following document among others:
(D3) EP-A-0 631 453.

III. With summons dated 27 August 2007 the appellant was summoned to the oral proceedings to take place on 7 December 2007. A communication with a provisional opinion of the Board on novelty and inventive step was sent on 6 September 2007.

IV. With a letter dated 1 November 2007 the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of a set of claims according to a main request filed with the grounds of appeal or sets of claims according to four auxiliary requests filed with the same letter of 1 November 2007.

Moreover, the appellant informed the Board that it will not be attending the oral proceedings. In this respect, the appellant requested that the oral proceedings be

cancelled and that the procedure be continued in writing.

V. With a fax dated 5 December 2007 the Board informed the appellant that it did not intend to cancel the oral proceedings.

VI. Oral proceedings were held on 7 December 2007 in the absence of the appellant's representative.

VII. The wording of claim 1 of the main, second, third and fourth auxiliary requests reads as follows:

"*A method of calibrating a position location system, comprising:*

receiving positioning signals, at a plurality of locations, by at least one wireless mobile communication device and determining downlink information from network signals received by at least one wireless mobile communication device, at each of the plurality of locations; CHARACTERIZED BY:

associating location information obtained from received position signals, with downlink information determined at each of the plurality of locations, to thereby calibrate the position location system; and

determining whether or not the received positioning signals are reliable, wherein only reliable position signals are associated in a database."

VIII. The wording of claim 1 of the first auxiliary request reads as follows:

"*A method of calibrating a position location system, comprising:*

receiving positioning signals, at a plurality of locations, by at least one wireless mobile communication device and determining downlink information from network signals received by at least one wireless mobile communication device, at each of the plurality of locations, the method CHARACTERIZED BY:

determining whether or not the received positioning signals are reliable, the reliability of the received positioning signals being determined based on whether the received positioning signals satisfy desired signal characteristics;

associating location information obtained from only reliable, received positioning signals with downlink information determined at each of the plurality of locations; and

populating a database with location information and associated downlink information to thereby calibrate the position location system, the location information populated in the database being only location information associated with reliable, received positioning signals."

Reasons for the Decision

1. The appeal is admissible.

2. Claim 1 of the main, second, third and fourth auxiliary requests

2.1 The document D3 (Abstract; column 2, line 54 to column 3, line 24; column 3, line 47 to column 4, line 9; claims 1-3) discloses a method for locating a mobile station in a digital telecommunication network.

According to the method, reference measurements are carried out on relevant traffic routes using a measuring mobile station equipped with a GPS receiver in order to provide position information related to measured network signals. Measurement data including positioning signals and network signals are transmitted from the mobile station to a respective base station. A computer is connected to a base station controller and is equipped with software for an adaptive neural network. In order to be used, the neural network must be trained with the aid of the measurement data. In particular, all the network signals are used without position information and the output result, i.e. position, is compared with the reference position which is obtained with the GPS equipment. The trained adaptive neural network thus carries out localisation of the mobile station with the aid of the measurement data from the mobile station. If the output result deviates from the reference position, the weightings in the adaptive neural network are adjusted in accordance with an algorithm.

2.2 Thus, having regard to the language of claim 1 of the main, second, third and fourth auxiliary requests, the document D3 discloses a method for locating a mobile station in a digital telecommunication network, comprising:

- receiving positioning signals, at a plurality of locations, by at least one wireless mobile communication device (having a GPS receiver),
- determining downlink information from network signals received by the at least one wireless mobile communication device, at each of the plurality of locations,

- associating (in an adaptive neural network in a base station) location information obtained from the received position signals with the downlink information determined from the received network signals at each of the plurality of locations in order to train the adaptive neural network.

The subject-matter of claim 1 of the main, second, third and fourth auxiliary requests, therefore, differs from the method according to D3 in that it concerns a calibrating method including the step of determining whether or not the received positioning signals are reliable, wherein only reliable position signals are associated in a database. Indeed, according to D3, all the reference data are recorded and used for training the adaptive neural network.

It follows that the subject-matter of claim 1 of the main, second, third and fourth auxiliary requests is novel (Article 54 EPC).

2.3 The Board holds the known method based on training of a neural network to represent an obvious alternative to the claimed calibration method relying on reliable position signals only. In both cases the aim is the same, i.e. precise location of a mobile station. Moreover, according to D3, the feature of training the neural network relies on an algorithm adjusting the weightings in the neural network. Similarly, according to the present application, criteria, which are nothing else than algorithms, must be established for deciding whether the received positioning signals are reliable (column 11, lines 43-51; Figure 7). Thus, although the terms "*train*" and "*calibration*" do not necessarily have

identical meanings, as the appellant underlined on the basis of the definitions in Webster's II New College Dictionary, 2001, both of them imply the definition of an algorithm with the aim of converting measured signals into a different parameter. In particular, positioning signals are converted into the location of a mobile station. According to D3, this conversion is carried out by adjusting the weightings of all data available, whereas in the present application, the conversion is carried out by sorting out reliable data among all data available.

The appellant drew attention to the computational advantage of determining whether data was reliable prior to the storing step in a database for further processing, as claimed, over the solution according to D3 of using all reference data for adjusting the weightings in a neural network. This is indeed a difference between the claimed method and that known from D3, as stated above. However, a skilled person would realise that a choice has to be made in order to train the neural network. Either all reference data available are used with the disadvantage that unreliable data would impair adjusting of the weightings, or only reliable data are used with the disadvantage that unreliable data must be sorted out prior to training of the network. The decision which solution should be preferred is then based on considerations of computational convenience for which the skilled person does not need any inventive activity.

In conclusion, the subject-matter of claim 1 of the main, second, third and fourth auxiliary requests does not involve an inventive step (Article 56 EPC).

3. Claim 1 of the first auxiliary request

3.1 Claim 1 of the first auxiliary request does not differ in a substantial manner from claim 1 of the main request. As it may well be expected, the step of determining whether or not the received positioning signals are reliable is recited before the step of associating location information with downlink information. The determining step is, moreover, defined as being based on whether the received positioning signals satisfy "*desired*" signal characteristics which are not specified. At the end of the claim, the step of populating the database is explicitly recited.

3.2 Thus, from the point of view of clarity the wording has been improved but the subject-matter defined in the claim has not changed so much as to deprive the arguments against inventive step of claim 1 of the main request of their validity.

Therefore, the subject-matter of claim 1 of the first auxiliary request does not involve an inventive step.

4. Oral proceedings and right to be heard

4.1 Pursuant to Article 11(3) RPBA the Board shall not be obliged to delay any step in the proceedings, including its decision, by reasons only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case.

In the present case, the appellant did not give any reasons for its request for cancelling the oral

proceedings, which, if granted, would have unduly delayed the Board's decision.

4.2 The present decision is based on a ground (lack of inventive step) and evidence (D3) mentioned in the Board's communication of 6 September 2007. Thus, the appellant has had an opportunity to present its comments (Article 113(1) EPC) even though it did not attend the oral proceedings on 7 December 2007.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Sauter B. Schachenmann